

WHAT IS CLAIMED IS:

1. An electronic device having a communication function comprising:

means for setting predetermined information using  
5 a predetermined communication profile from a plurality of communication profiles created based on setting information required for a communication used in a network, and performing communication connection according to the network setting; and

10 means for determining whether or not communication connection by the means for performing communication connection has been successfully established, and selecting a communication profile optimal for a current network environment from the plurality of communication  
15 profiles when the connection has not been successfully established,

wherein the means for performing communication connection establishes communication connection using the selected communication profile.

20 2. The electronic device according to claim 1, further comprising:

means for detecting a change in a network environment;

means for, when the means for detecting the change  
25 in the network environment detects a change in a network environment, acquiring setting information required for a communication used in the detected

network environment and creating a communication profile based on the information; and

means for managing communication profiles created by the means for creating the communication profile,

5            wherein the means for performing communication connection performs network setting using a communication profile managed by the means for managing communication profiles and establishes communication connection according to the setting, and

10           means for diagnosing a communication profile determines whether or not communication connection by the means for performing communication connection has been successfully established, and selects a communication profile optimal for a current network  
15           environment detected by the means for detecting the change in the network environment from the communication profiles managed by the means for managing communication profiles when the connection has not been successfully established.

20           3. The electronic device according to claim 1, further comprising a graphic user interface which designates whether selection of a communication profile used by the means for performing communication connection is performed manually or automatically.

25           4. The electronic device according to claim 1, wherein the means for diagnosing the communication profile further comprises means for displaying a list

of optimal communication profiles in an output manner and causing a user to select a communication profile from the list.

5           5. The electronic device according to claim 2, wherein the means for diagnosing the communication profile further comprises means for receiving a notification indicating that a normal communication cannot be secured from the means for performing communication connection; and

10           means for comparing a current network environment detected by the means for detecting the change in the network environment and a network environment according to a currently-selected communication profile on a reception of the notification, and selecting an optimal  
15           communication profile used by the means for performing communication connection from the difference therebetween.

          6. The electronic device according to claim 2, wherein the means for diagnosing the communication  
20           profile further comprises a graphic user interface which compares a current network environment detected by the means for detecting the change in the network environment and a network environment according to a currently-selected communication profile, and  
25           presents the difference therebetween to a user.

          7. The electronic device according to claim 2, wherein the means for diagnosing the communication

profile further comprises changeover control means for enabling a wireless device when the means for detecting the change in the network environment detects a status where a LAN cable is disconnected, and disabling the wireless device when the means for detecting the change in the network environment detects a status where the LAN cable is connected.

8. The electronic device according to claim 2, further comprising means for performing edition of a communication profile including addition, deletion, and modification of a communication profile managed by the means for managing communication profiles.

9. The electronic device according to claim 2, wherein the means for detecting the change in the network environment comprises means for notifying the means for diagnosing the communication profile of a status of a change in the network setting when a LAN cable is disconnected, or when the LAN cable is connected, or when a wireless network is disconnected, or when the wireless network is detected, and

the means for diagnosing the communication profile further comprises means for changing a communication profile used by the means for performing communication connection when the means for detecting the change in the network environment detects a status where a LAN cable is disconnected or detects a status where the LAN cable is connected, alternatively detects a status

where a wireless network is disconnected or detects the wireless network.

10. The electronic device according to claim 2,  
wherein the means for creating a communication profile  
5 further comprises means for acquiring at least one  
information of information on a status and setting of a  
communication device, information on setting accompany-  
ing the communication device, information on system  
setting relating to the communication device as setting  
10 information required for a communication, and creating  
a communication profile based on the acquired  
information.

11. The electronic device according to claim 2,  
wherein the means for managing communication profiles  
15 further comprises means for denoting a name or unique  
icon designated by a user to a communication profile to  
be managed, and storing and managing the same.

12. The electronic device according to claim 2,  
wherein the means for creating a communication profile  
20 acquires at least any item of information on a proxy  
server or start homepage which relates to the Internet,  
a DHCP, an IP address, a subnet mask, a default  
gateway, a DNS server, or a WINS server which relates  
to TCP/IP as setting information required for a  
25 communication, and creating a communication profile  
based on the acquired information.

13. A communication environment setting method of

an electronic device having a communication function  
with a network connection comprising:

5        setting predetermined information using a  
predetermined communication profile from a plurality  
of communication profiles created based on setting  
information required for a communication used in  
a network, and performing communication connection  
according to the network setting; and

10        determining whether or not communication  
connection by the performing communication connection  
has been successfully established, selecting  
a communication profile optimal for a current network  
environment from the plurality of communication  
profiles when the connection has not been successfully  
15        established, and changing over a communication profile  
used in the communication connection to the selected  
communication profile.

14. A communication environment setting method  
comprising:

20        detecting a change in a network environment to be  
used;

acquiring setting information required for a  
communication used in the detected network environment  
and creating a communication profile based on the  
25        information, when a change in a network environment is  
detected; and

managing the communication profile,

wherein the detecting the change in the network environment performs network setting using the communication profile and establishes communication connection according to the setting, and

5           the acquiring setting information determines whether or not communication connection has been successfully established, and selects a communication profile optimal for a detected current network environment from the communication profile when the  
10           connection has not been successfully established.

15           15. The communication environment setting method according to claim 14, wherein the detecting the change in the network environment comprises notifying of a status of a change in the network setting when a LAN  
15           cable is disconnected, or when the LAN cable is connected, or when a wireless network is disconnected, or when the wireless network is detected, and

20           the diagnosing the communication profile further comprises changing a communication profile used by the performing communication connection when the detecting the change in the network environment detects a status where a LAN cable is disconnected or detects a status where the LAN cable is connected, alternatively detects a status where a wireless network is disconnected or  
25           detects the wireless network.

16. The communication environment setting method according to claim 14, wherein the diagnosing the

communication profile compares the detected current network environment setting and the network environment setting according to the communication profile which is currently selected, and selects a communication profile optimal for the detected current network environment from a difference therebetween, when a normal communication cannot be secured.

17. A computer-readable program causing a computer to execute network setting for performing communication, the program comprising:

program code for setting predetermined information using a predetermined communication profile from a plurality of communication profiles created based on setting information required for a communication used in a network, and performing communication connection according to the network setting; and

program code for determining whether or not communication connection by the performing communication connection has been successfully established, selecting a communication profile optimal for a current network environment from the plurality of communication profiles as a communication profile used in the network setting when the connection has not been successfully established.

18. The program according to claim 17, further comprising:

program code for detecting a change in a network



environment to be used;

program code for acquiring setting information required for a communication used in the detected network environment and creating a communication  
5 profile based on the information, when a change in a network environment is detected; and

program code for managing the communication profile as a selectable communication profile according to the determination of communication connection.

10 19. The program according to claim 17, further comprising:

the program code for detecting the change in the network environment comprises program code for notifying of a status of a change in the network  
15 setting when a LAN cable is disconnected, or when the LAN cable is connected, or when a wireless network is disconnected, or when the wireless network is detected, and

the program code for diagnosing the communication  
20 profile further comprises program code for changing a communication profile used by the performing communication connection when the detecting the change in the network environment detects a status where a LAN cable is disconnected or detects a status where the LAN  
25 cable is connected, alternatively detects a status where a wireless network is disconnected or detects the wireless network.

20. The program according to claim 18, wherein

the program code for diagnosing the communication profile receives notification that a normal communication cannot be secured, compares the detected current network environment setting and the network environment setting according to the communication profile which is currently selected, and selects a communication profile used in the network setting from a difference therebetween, when a normal communication cannot be secured.

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